(Kg. per year)

Year	Rice	Wheat	Pulses	Total Foodgrains
2002	83.5	60.8	12.9	180.4
2003	66.2	65.8	10.6	159.7
2004	71.3	59.2	13.1	168.9
2005	64.7	56.3	11.5	154.2
2006(P)	72.5	55.9	11.7	162.3

(P)-Provisional

Such estimates are not worked out State-wise.

(c) In order to increase production and productivity and thereby the per capita availability, the Government has taken several initiatives like Integrated Cereals Development Programme (ICDP) for Rice, Wheat and Coarse Cereals under Macro Management Mode of Agriculture, Integrated Scheme of Oilseeds, Pulses, Oilpalm and Maize (ISOPOM), enhancing institutional credit flow to the farmers, ensuring timely availability of quality inputs, accelerating diversification to high value crops including horticulture, optimizing the efficient utilization of available water resources through micro irrigation and enhancing the sustainability of dryland/rain fed farming system,reforming agricultural markets and putting in place a broader spectrum of risk management apparatus for farmers.

Effect of global warming on agriculture production

3211. SHRI JANARDHANA POOJARY:
SHRI T.T.V. DHINAKARAN:

Will the Minister of AGRICULTURE be pleased to state:

(a) whether it is a fact that global warming is adversely affecting the agriculture production in the country;

(b) if so, the details thereof with the quantum of decline in the agricultural produce during the last five years, year-wise, State-wise, produce-wise (*i.e.* rice, wheat, sugarcane, oilseeds, etc.);

(c) whether Government propose to conduct a study on the impact of global warming on India's agriculture and to take remedial measures; and

(d) *if so, the details thereof and if not, the reasons therefor?*

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI KANTI LAL BHURIA): (a) Sir, no definite evidence of impacts of climate change on agriculture production in the country has been noticed. However, preliminary results available from the study conducted under network project on impact, adaptation and vulnerability of Indian agriculture to climate change indicates that increase in temperature and change in precipitation pattern could significantly impact the agriculture production in the country in future.

(b) Some scanty informations on extreme events of cold waves, heat waves and the excess rainfall have been noticed. In Agra, wheat, gram, mustard and aonla yields were lowered due to cold waves in 2002-03 as compared to previous normal year of 2001-02. In Bihar, loss of seed setting in maize and loss of productivity in boro rice of Assam was recorded in response to extreme coldness. Loss of production, higher incidence of diseases and advance maturity in wheat was noticed due to abnormal temperature rice in March, 2004. Damage due to excess rainfall in 1998 and 2005, the prices of onion spiraled in retail market due to crop damage.

(c) Yes, Sir.

(d) During Tenth Plan period ICAR has initiated a Network Project on"Impact, Adaptation and Vulnerability of Indian Agriculture to Climate Change" at diferent ICAR Institutes/State Agricultural Universities. The Project aimed to study the impact of climate change on agriculture and allied disciplines like bio-diversity, agroforestry, horticulture, livestock and fisheries. Research efforts are being made to mitigate the impacts of climate change by increasing the adaptive capacity of the agriculture to global climate change. Emphasis has also been given during Eleventh Plan Period to strengthen the existing institutional network to cope up to the challenges posed by climate change.